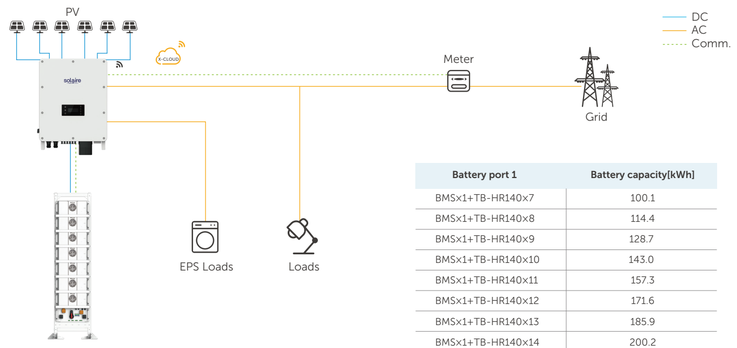
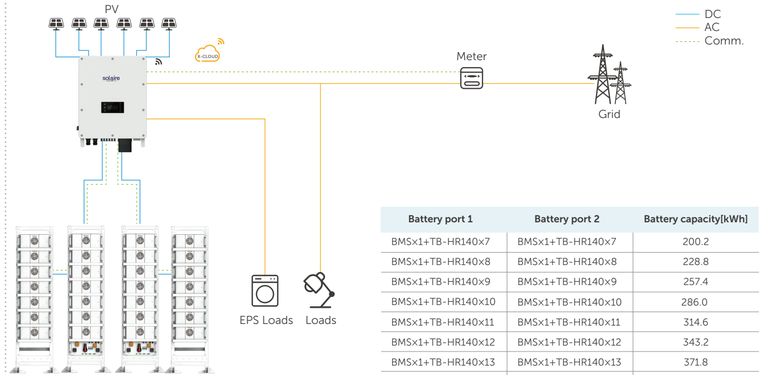
BATTERY MODULE COMBINATION TABLE



Battery port 1	Battery capacity[kWh]
BMSx1+TB-HR140x7	100.1
BMSx1+TB-HR140x8	114.4
BMSx1+TB-HR140x9	128.7
BMSx1+TB-HR140x10	143.0
BMSx1+TB-HR140x11	157.3
BMSx1+TB-HR140x12	171.6
BMSx1+TB-HR140x13	185.9
BMSx1+TB-HR140x14	200.2



Battery port 1	Battery port 2	Battery capacity[kWh]
BMSx1+TB-HR140x7	BMSx1+TB-HR140x7	200.2
BMSx1+TB-HR140x8	BMSx1+TB-HR140x8	228.8
BMSx1+TB-HR140x9	BMSx1+TB-HR140x9	257.4
BMSx1+TB-HR140x10	BMSx1+TB-HR140x10	286.0
BMSx1+TB-HR140x11	BMSx1+TB-HR140x11	314.6
BMSx1+TB-HR140x12	BMSx1+TB-HR140x12	343.2
BMSx1+TB-HR140x13	BMSx1+TB-HR140x13	371.8
BMSx1+TB-HR140x14	BMSx1+TB-HR140x14	400.4

① Test conditions: 90% DOD, 0.2C charger & discharger @ 25°C
② Max. charge / discharge current may be variant with different inverter models
③ Nominal / Maximum operation current and nominal / maximum power derating will occur related to temperature or SOC

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V1.4 Information may be subject to modify without notice.
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AELIO+HR140

49.9kW/50kW/60kW/61kW
100.1kWh~400.4kWh

SolaX Split C&I Energy Storage Solution

X3-AELIO

** Feature to be upgraded in the future*

Flexible Configuration

- Customizable battery setup: batteries can be flexibly configured according to customer site requirements, supporting indoor and rack-mounted installations.
- Parallel operation: supports up to 10 parallel systems, meeting power requirements from 49.9 kW to 600 kW.
- Battery options: two battery choices available.
- PV oversizing: supports up to 200% PV oversizing.

Safe and Reliable

- Three-Phase unbalance: Inverter supports 100% three-phase unbalance.
- Long-Term overload: inverter supports 110% long-term overload.
- Seamless switching: inverter supports 10ms on-grid/off-grid switching
- Off-Grid overload: inverter supports 150% off-grid overload.

Intelligent and Convenient

- Remote monitoring: supports web/app remote data viewing and remote OTA updates
- Versatile operating modes: supports various operating modes to meet different application scenarios such as self-consumption, peak shaving, and demand management
- VPP Integration: supports VPP applications through IEEE2030.5, OpenADR※
- Generator control: work seamlessly with generator to save fuel and back up

	X3-AELIO-49.9K	X3-AELIO-49.9K-P	X3-AELIO-50K	X3-AELIO-60K	X3-AELIO-61K
PV INPUT					
Max. recommended PV array power	100 kWp	120 kWp	100 kWp	120 kWp	
Max. PV input voltage①	1000 V				
Rated PV input voltage	650 V				
MPPT voltage range②	160 ~ 950 V				
Start-up voltage	180 V				
No. of MPP trackers / strings per MPP tracker	5 / 2	6 / 2	5 / 2	6 / 2	
Max. input current per MPPT	40 A				
Max. input short circuit current per MPPT	50 A				
AC INPUT & OUTPUT (ON-GRID)					
Rated output power	49.9 kW	49.9 kW	50 kW	60 kW	61 kW
Rated output current	75.7 A @ 220 V 72.4 A @ 230 V	75.7 A @ 220 V 72.4 A @ 230 V	75.8 A @ 220 V 72.5 A @ 230 V	91.0 A @ 220 V 87.0 A @ 230 V	92.5 A @ 220 V 88.5 A @ 230 V
Max. output apparent power	49.9 kVA	49.9 kVA	55.0 kVA	66.0 kVA	66.0 kVA
Max. output continuous current	75.7 A @ 220 V 72.4 A @ 230 V	75.7 A @ 220 V 72.4 A @ 230 V	83.4 A @ 220 V 79.8 A @ 230 V	100.0 A @ 220 V 95.7 A @ 230 V	100.0 A @ 220 V 95.7 A @ 230 V
Rated AC voltage	3 / N / PE, 220 / 380 V 3 / N / PE, 230 / 400 V				
Rated AC frequency	50 Hz / 60 Hz				
AC frequency range③	50 ± 5 Hz / 60 ± 5 Hz				
Adjustable power factor range	~ 1 (0.8 lagging to 0.8 leading)				
THDi (rated power)	< 3%				

	X3-AELIO-49.9K	X3-AELIO-49.9K-P	X3-AELIO-50K	X3-AELIO-60K	X3-AELIO-61K
BATTERY					
Battery type	LFP				
Battery voltage range	180 ~ 820 V				
Max. charge / discharge current	160 A (80 A × 2)				
EPS (OFF-GRID) OUTPUT					
Rated EPS output voltage, frequency	3 / N / PE, 220 / 380 V, 50 Hz / 60 Hz 3 / N / PE, 230 / 400 V, 50 Hz / 60 Hz				
Rated EPS output power	49.9 kVA	49.9 kVA	50.0 kVA	60.0 kVA	61.0 kVA
Max. EPS output power	75 kVA, 10s	75 kVA, 10s	75 kVA, 10s	90 kVA, 10s	90 kVA, 10s
Switchover time	< 10 ms				
EFFICIENCY					
Max. efficiency	98.0%				
European efficiency	97.2%				
ENVIRONMENT LIMIT					
Ingress protection	IP66				
Operating temperature range	-35 ~ 60°C (derating +45°C)				
Max. operating altitude	3000 m				
Relative humidity	0 ~ 100% RH (condensing)				
Overvoltage category	Mains: III, Battery: II, PV: II				
GENERAL					
Dimensions (W × H × D)	670 × 820 × 257 mm				
Net weight	< 100 kg	< 105 kg	< 100 kg	< 105 kg	< 105 kg
Cooling concept	Smart air cooling				
Communication interfaces	RS485-Meter, RS485-Monitor, RS485-Parallel (daisy-chain), CAN-BMS, CAN-Parallel (daisy-chain), USB, DI×2, DO×1, RCR (DI×4), DRM				
Topology	Non-isolated				
Certificates and approvals	CE, VDE4105, G99, AS4777, EN50549, CEI 0-21, IEC61727, PEA/MEA, NRS-097-2-1, RD1699, TOR				
PROTECTION					
Over / under voltage protection	Yes				
DC isolation protection	Yes				
DC reverse-polarity protection	Yes				
Grid monitoring	Yes				
DC injection monitoring	Yes				
Back feed current monitoring	Yes				
Residual current detection	Yes				
Over temperature protection	Yes				
Active anti-islanding method	Frequency shift				
Surge protection (DC / AC)	DC: Type II, AC: Type II				
Arc-fault circuit interrupter (AFCI)	Optional				
AC auxiliary power supply (APS)	Built-in				

① The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage inverter
② Input voltage exceeding the MPPT voltage range may triggers inverter protection
③ The AC frequency range may vary from different country codes

TSYS-HR140

	T-HR100.1	T-HR114.4	T-HR128.7	T-HR143.0	T-HR157.3	T-HR171.6	T-HR185.9	T-HR200.2
SYSTEM SPECIFICATION								
Nominal voltage	358.4 d.c.V	409.6 d.c.V	460.8 d.c.V	512 d.c.V	563.2 d.c.V	614.4 d.c.V	665.6 d.c.V	716.8 d.c.V
Operating voltage range	292 - 409 d.cV	333 - 468 d.cV	375 - 526 d.cV	416 - 584 d.cV	458 - 643 d.cV	500 - 701 d.cV	541 - 760 d.cV	583 - 818 d.cV
Nominal energy	100.1 kWh	114.4 kWh	128.7 kWh	143.0 kWh	157.3 kWh	171.6 kWh	185.9 kWh	200.2 kWh
Usable energy(90% DOD)①	90.1 kWh	103.0 kWh	115.8 kWh	128.7 kWh	141.6 kWh	154.4 kWh	167.3 kWh	180.2 kWh
Rated charge/ discharge power	50.2 kW	57.4 kW	64.6 kW	71.7 kW	78.9 kW	86.1 kW	93.2 kW	100.4 kW
Recommend charge / discharge current	140 A							
Max. charge / discharge current②	154 A							
Cycle life (90% DOD)③	> 6000 Cycles							
ENVIRONMENT LIMIT								
Operating temperature range	0 - 53°C (charge) -20 - 53°C (discharge)							
Cooling concept	Natural cooling							
Storage temperature	-20 - 30°C (12 months) 30 - 50°C (6 months)							
Relative humidity	5 ~ 85% (non-condensing)							
Max. operating altitude	3000 m							
Installation type	Rack							
Ingress protection	IP20							
Environment	Indoor							
BMS								
Model	TBMS-R15							
Operating voltage vange	250 - 1000 d.cV							
Dimensions (WxHxD)	523 × 226 × 805 mm							
Net weight	37 kg							
RACK								
Dimensions (WxHxD)	576 × 2287 × 823 mm							
Net weight	91 kg							
BATTERY MODULE								
Battery model	TB-HR140							
Battery type	LFP							
Scalability	7	8	9	10	11	12	13	14
Module capacity	14.3 kWh							
Dimensions (WxHxD)	523 × 226 × 805 mm							
Net weight	115 kg							
BATTERY MODULE								
Communication interfaces	CAN							
STANDARD								
Safety	IEC 62619, IEC 62477, UN38.3							

① Test conditions: 90% DOD, 0.2C charge & discharge @+25°C
② Current is affected by the number of batteries connected in parallel as well as temperature and SOC
③ Test conditions: 25±2°C,0.5C charge & discharge,70%EOL
④ Regardless of whether the internal and external fans are on or off, the typical value is the maximum value obtained from the test results.